A. Permit Certificate

INDUSTRIAL
WASTEWATER REUSE PERMIT
LA-000016-03

Seneca Foods Inc., LOCATED AT 430 7th Avenue South, Buhl, ID 83316 AND IN **Township(s) 9S, Range(s) 15E, Section(s) 29, 31, 32 and 33** IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND OPERATE A WASTEWATER-LAND APPLICATION TREATMENT SYSTEM IN ACCORDANCE WITH THE WASTEWATER REUSE RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS (IDAPA 58.01.02), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND REFERENCE DOCUMENTS. THIS PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON **(60 months from issue date)**.

Doug Howard
Regional Administrator
Idaho Department of Environmental Quality

Date:

DEPARTMENT OF ENVIRONMENTAL QUALITY
1363 Fillmore Street
Twin Falls, Idaho, 83301
208-736-2190 (phone)
208-736-2194 (fax)

B. Permit Contents, Appendices, and Reference Documents

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Appendices

1. Environmental Monitoring Serial Numbers
2. Site Maps
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References

1. Plan of Operation (Operation and Maintenance Manual)
2. Nuisance Odor Management Plan
3. Waste Solids Management Plan
4. Sampling and Analysis Plan
5. Buffer Zone Plan

The Sections, Appendices, and References (with exception of Reference 1. Plan of Operation or Operation and Maintenance Manual) listed on this page are all elements of Wastewater-Land Application Permit LA-000016-03 and are enforceable as such. This permit does not relieve Seneca Foods Inc., hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C. Abbreviations, Definitions

Ac-in	Acre-inch. The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons.
Baler water	Process water consisting of a mixture of water and organic material collected from hydraulic presses used to press the silage, waste corn husks, leaves and cobs.
BMP or BMPs	Best Management Practices "A practice or combination of practices determined to be the most effective and practical means of preventing or reducing contamination to ground water and/or surface water from nonpoint and point sources to achieve water quality goals and protect the beneficial uses of the water"
BPM or BPMs	Best Practical Methods "Any system, process, or method that is established and in routine use which could be used to minimize the impact of point or nonpoint sources of contamination on ground water quality"
COD	Chemical Oxygen Demand
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality, or the Director's Designee, i.e. Regional Administrator
ET	Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
GS	Growing Season – Typically April 01 through October 31 (214 days) unless otherwise indicated herein
GW	Ground Water
GWQR	IDAPA 58.01.11 "Ground Water Quality Rule"
Handbook or Guidelines	Handbook for Land Application of Municipal and Industrial Wastewater, DEQ, April 1996.
HLRgs	Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLRgs limit is specified in Section F. Permit Limits and Conditions.
HLRngs	Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLRngs limit is specified in Section F. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial Number designation is MU)
IWR	Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). Calculation methodology for the IWR can be found at the following website: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. The equation used to calculate the IWR at this website is: $IWR = (CU - P_e) / E_i$ CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration P_e is the effective precipitation. CU minus Pe is synonymous with the net irrigation requirement (IR) E_i is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency.
IDAPA	Idaho Administrative Procedures Act.
LG	Lagoon
lb/ac-day	Pounds (of constituent) per acre per day
MG	Million Gallons (1 MG = 36.827 acre-inches)

C. Abbreviations, Definitions

MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – Typically November 01 through March 31 (151 days)
NVDS	Non-Volatile Dissolved Solids (= Total Dissolved Solids less Volatile Dissolved Solids)
O&M manual	Operation and Maintenance Manual, also referred to as the Plan of Operation
SAR	Sodium Absorption Ratio
SI	Supplemental Irrigation water applied to the land application treatment site.
Soil AWC	Soil Available Water Holding Capacity - the water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)
SMU	Soil Monitoring Unit (Serial Number designation is SU)
SW	Surface Water
TDS	Total Dissolved Solids or Total Filterable Residue
TDIS	Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Nitrate, Silica and fluoride shall be included if present in significant quantities (i.e. > 5 mg/L each).
TMDL	Total Maximum Daily Load – The sum of the individual waste-load allocations (WLA's) for point sources, Load Allocations (LA's) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. IDAPA 58.01.02 *Water Quality Standards and Wastewater Treatment Requirements*
Typical Crop Uptake	Typical Crop Uptake is defined as the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
USGS	United States Geological Survey
WLAP	Wastewater Land Application Permit (or Program)
WLAP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 01 – October 31. For example, the 2000 Reporting Year was November 01, 1999 through October 31, 2000.
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	Seneca Foods Inc.
Type of Wastewater	Peas, corn and carrots processing wastewater
Method of Treatment	Slow rate land application
Type of Facility	Vegetables processing
Facility Location	430 7th Avenue South, Buhl, Id, 83316 (plant address)
Legal Location	T9S R15E, Sections 29,31,32 and 33
County	Twin Falls
USGS Quad	Clover
Soils on Site	Minveno silt loam, Sluka silt loam and Portneuf silt loam
Depth to Ground Water	60 to 85 feet
Beneficial Uses of Ground Water	Domestic, Municipal, Irrigation
Nearest Surface Water	Irrigation ditches/canals flowing north towards the Snake River
Beneficial Uses of Surface Water	Irrigation
Responsible Official **Mailing Address** **Phone / Fax**	Russ Grubb Director of Operations & Ag, Idaho Region Doug Thorson QA/AG Manager 430 7th Ave South Buhl, Idaho 83316 208-543-9325 / 208-543-6015
Facility Consultants Mailing Address **Phone / Fax**	George Spinner, Managing Scientist, Cascade Earth Sciences (CES) 444 Hospital Way, Suite 520 Pocatello, Id, 83201 208-233-6565 / 208-233-6566

E. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by the Department in writing.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-016-01 **One year after permit issuance**	A Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater land application facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and comment. The O&M manual shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include daily sampling and monitoring requirements to insure proper operation of the wastewater treatment facility. The Plan of Operation shall contain at a minimum all of the information required by the latest revision of the Plan of Operation Checklist in the Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater, Appendix A.12, page A-82.
CA-016-02 **One year after permit issuance**	A Sampling and Analysis Plan (SAP) shall be submitted to DEQ for review and approval. The Plan shall include: 1. A comprehensive description of environmental sampling and analysis procedures for conducting all sampling and monitoring required in Section G, Facility Monitoring; 2. Detailed quality control/quality assurance provisions (QA/QC) and 3. Provisions for annual statistical data analysis. In the interim, in cases where a 24 hours composite sample of the effluent is not possible the sampling procedure(s) for the effluent monitoring shall be submitted to DEQ for review and approval prior to effluent irrigation to land application.
CA-016-03 **One year after permit issuance**	A Nuisance Odor Management Plan shall be submitted to DEQ for review and approval. The Odor Management Plan shall include wastewater treatment systems, land application facilities, and other operations associated with the facility. The plan shall include specific design considerations, operation and maintenance procedures, and management practices to be employed to minimize the potential for or limit odors. The plan shall also include procedures to respond to an odor incident if one occurs, including notification procedures.
CA-016-04 **Six (6) months after permit issuance**	Submit a Waste Solids Management Plan to DEQ for review and approval. The Plan shall describe how waste solids generated at the facility will be handled and disposed of to meet the requirements of section I, No. 5.

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-016-05 One year after permit issuance	Conduct seepage rate testing for the surge pond in accordance with DEQ procedures or a method approved by DEQ. Submit seepage test data and results to DEQ for review and approval. The seepage rate for the pond shall not exceed 0.125 inches/day. If the pond does not meet the requirement, submit a plan and schedule within 90 days after obtaining test results for DEQ review and approval, to repair, replace, or abandon the lagoon.
CA-016-06 Prior to wastewater irrigation (see Compliance Activity Description)	The Department will review and comment on "Well Location Acceptability Analysis and Buffer Zone Assessment" submitted May 2006. Based on DEQ's comments the permittee may need to prepare and submit an updated Buffer Zone Plan. Upon review of the Plan DEQ will establish buffer distances for the site.
CA-016-07 See timeline in the compliance activity description section	No later than six (6) months after permit issuance, Seneca shall submit to DEQ a report that determines whether or not the existing groundwater monitoring well network provides adequate coverage for the existing and new land application areas. If it is determined that additional wells should be installed, Seneca shall submit plans and specifications for ground water monitoring network improvements. DEQ shall review the plans and specifications and the new wells shall be installed within twelve (12) months of DEQ's approval.
CA-016-08 See timeline in the compliance activity description section	Within twelve (12) months after permit issuance: 1) The Permittee shall submit to DEQ for review and approval a Ground Water Investigation Report (Report) which, at a minimum shall include the analysis of iron, manganese, nitrate and TDS in addressing the following items: a) Establishes site background ground water quality. b) Identifies, by mapping, areas of ground water quality degradation and areas where ground water quality exceeds the standards set forth in the Ground Water Quality Rule (GWQR), IDAPA 58.01.11.200, as the result of past/or present wastewater land application practices by permittee. c) Contains a list of the existing and projected beneficial uses of ground water in the areas where ground water quality degradation has been identified. Within six (6) months after DEQ review and comment to Ground Water Investigation Report : 2) For areas where ground water quality standards have been exceeded as identified in item 1) the Permittee shall submit to DEQ a Water Quality

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
	Improvement Plan (WQIP) which, at a minimum, includes the following items: a) A list of possible remedial activities using best management practices (BMPs) and best practical methods (BPMs) that will result in ground water quality that meets GWQR standards and site background levels to the maximum extent practicable; b) An analysis of each alternative activity identified in the WQIP and justification for the selected activity(s); c) A schedule for implementation of the selected activity(s) and an estimated timeframe for compliance with ground water quality standards; d) Offer to provide an alternative domestic water supply (meeting IDAPA 58.01.11.200.01a, b and c criteria) for any domestic well exceeding GWQR standards within the area identified in the Report that were degraded as result of past or present wastewater reuse activities by the permittee. Once approved, the WQIP shall become a part of this permit and shall be enforceable as provided in applicable law. All work undertaken shall not deviate from the approved WQIP unless prior written approval is received from DEQ. With respect to Report and the WQIP (Documents), if upon submittal further information is requested by DEQ, the Permittee shall submit such information to DEQ within 30 days of the request, or within a time frame allowed by DEQ. DEQ shall notify the Permittee in writing, of DEQ's approval of the report. If the Permittee does not submit approvable Documents, as determined by DEQ, within a reasonable time, the Permittee shall be in violation of this Permit. <u>Timeline to be determined:</u> 3) For areas where ground water quality is degraded in item 1), but GWQR standards are not exceeded, preventive measures shall be implemented as provided in IDAPA 58.01.11.400.02 a) The permittee shall offer to provide an alternate water supply (such as connection to the public water supply, deepen the well, household treatment, etc.) for any ground water user within the area identified in the Report whose beneficial use has been reduced as result of past or present wastewater reuse activities by the permittee.
CA-016-09 Twelve (12) months after permit issuance	Seneca shall prepare and submit to DEQ for approval a Runoff Management Plan with control structures and other BMPs (e.g. collection basins, berms, etc.) designed to prevent wastewater runoff from any site or fields used for wastewater land application to property not owned or leased by Seneca except

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
	in the event of a 25-year, 24-hour storm event or greater, using Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28 "Isopluvials of 25-YR, 24-HR Precipitation". For this site, the 25-year, 24-hour event is 1.8 inches. The Plan shall include BMPs to control supplemental water sediment and prevent it from entering the irrigation canals. Berms and other Best Management Practices (BMPs) shall be used to protect the well head of on-site wells and prevent runoff from the site, in areas where it may potentially occur. The BMP's shall be reviewed and approved by DEQ prior to installation.

F. Permit Limits and Conditions

Category	Permit Limits and Conditions
Type of Wastewater	Vegetables processing
Application Site Area	1061 acres
Application Season	Growing Season (GS) April 1 through October 31
Growing Season (GS)	April 1 through October 31
Non-growing Season (NGS)	November 1 through March 31
Reporting Year for Annual Loading Rates	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 1 – October 31. For example, the 2005 Reporting year was November 1, 2004 through October 31, 2005.
Growing Season Maximum Hydraulic Loading Rate (Applies to wastewater and supplemental irrigation water).	Growing Season (GS) Hydraulic Loading Rate shall generally follow the Irrigation Water Requirement (IWR) using data from the tables of the following University Of Idaho web site: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency. In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the 1994 Technical Interpretive Supplement, pages IV-6 and IV-7. Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR. Application shall generally follow consumptive use rates for the crop throughout the season.
Non-Growing Season Maximum Hydraulic Loading Rate	No wastewater irrigation is allowed during the non-growing season.
Runoff	No runoff of the process wastewater is allowed. Upon approval of the Runoff Management Plan by DEQ, Seneca shall implement the plan, operate and maintain the control structures and other BMPs in accordance with the plan.
Livestock Grazing	A grazing management plan shall be submitted to DEQ for review and approval prior to any grazing activities. Guidance for preparation of the plan can be found on the DEQ Internet site at: http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm
Ground Water Quality	Ground water quality shall be in compliance with the Ground Water

F. Permit Limits and Conditions

Category	Permit Limits and Conditions
	Quality Rule (GWQR), IDAPA 58.01.11.
Maximum COD Loading, seasonal average pounds/acre-day, each HMU	50 pounds / acre-day for 91 days (April 1 through June 30) for peas processing 200 pounds / acre-day for 123 days (July 1 through October 31) for corn processing
Maximum Nitrogen Loading Rate, pounds/acre-year, each HMU (from all sources including waste solids and supplemental fertilizers)	150% of typical crop uptake (see definition) or UI Fertility Guide.
Maximum Phosphorus Loading Rate, pounds/acre-year (from all sources including waste solids and supplemental fertilizers)	No limit at this time. DEQ reserves the right to re-open this permit for inclusion of phosphorous limits.
Maximum Inorganic TDS Loading Rate, pounds/acre-year , each HMU	4000 pounds/acre-year
Baler water	Baler water may be allowed to be land applied one time only per year at sites that are not currently permitted. However, prior to every application, Seneca shall provide site specific information to justify the appropriateness of the selected site. The Department will review and determine on a site-by-site basis whether or not to approve the land application and the necessary monitoring, recording and reporting for the site. A site may not be approved if it appears that the baler water land application would cause impacts on designated beneficial uses of the ground water and surface water, and/or would create a public health hazard or nuisance condition. See Appendix 3 for specific information required to be submitted to determine site eligibility; required limits and conditions, monitoring and reporting for the approved sites.
Construction Plans	Prior to construction or modification of all wastewater facilities associated with the land application system or expansion, detailed plans and specifications shall be reviewed and approved by DEQ.

F. Permit Limits and Conditions

Category	Permit Limits and Conditions
	Within 30 days of completion of construction, the permittee shall submit as-built plans to DEQ or submit a certification letter stating that all construction was done in substantial compliance with DEQ approved plans and specifications.
Buffer Zones and Wellhead Protection	Buffer Zones to be determined based on the approval of the Buffer Zone Plan required by the compliance activity CA-016-06. No wastewater is allowed to be applied prior to resolution of the buffer zones distances.
Supplemental Irrigation Water Protection	For systems with wastewater and fresh irrigation water interconnections, DEQ-approved backflow prevention devices are required. "The backflow prevention devices shall be tested for proper operation annually as required in Section G. Monitoring Requirements. DEQ approved permanent structures such as air gaps if used need to be tested only when physical changes are made to the structures".
Odor Management	The wastewater treatment plant, land application facilities, and other operations associated with the facility shall not create a public health hazard or nuisance conditions including odors. These facilities shall be managed in accordance with a DEQ approved Odor Management Plan. See also Compliance activity CA-016-03.
Posting	The Department recommends that posting be installed at the land application areas indicating irrigation with reclaimed wastewater.
Allowable Crops	Crops grown for direct human consumption (those crops that are not processed prior to consumption) are not allowed.

G. Monitoring Requirements

The Permittee is allowed to apply wastewater and treat it on a land application site as prescribed in the table below and in accordance with all other applicable permit conditions and schedules.

1) Appropriate analytical methods, as given in the most current version of the Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater, or as approved by the Idaho Department of Environmental Quality (hereinafter referred to as DEQ), shall be employed. A description of approved sample collection methods, appropriate analytical methods and companion QA/QC protocol shall be included in Sampling and Analysis Plan (SAP) in the Compliance Activity CA-016-02.

2) The permittee shall monitor and measure parameters as stated in the Facility Monitoring Table in this section.

3) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.

4) Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Table on the following pages. Monitoring is required at the frequency shown in the table below if wastewater is applied anytime during the time period shown.

5) Ten (10) soil sample locations shall be selected for each management unit. Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each management unit.

6) Ground Water Monitoring Procedure: Ground Water Monitoring Wells shall be purged a minimum of three casing volumes and/or until field measurements for pH, specific conductivity and temperature meet the following conditions: two successive temperature values measured at least five minutes apart are within one degree Celsius of each other, pH values for two successive measurements measured at least five minutes apart are within 0.2 units of each other, and two successive specific conductance values measured at least five minutes apart are within 10% of each other. This procedure will determine when the wells are suitable for sampling for constituents required by the permit. Other procedures, such as low flow sampling, may be considered by DEQ for approval. The static water level shall be measured prior to pumping or sampling for ground water.

7) Annual reporting of monitoring requirements is described in Section H, Standard Reporting Requirements.

8) Monitoring locations are defined in Appendix 1, “Environmental Monitoring Serial Numbers”.

G. Monitoring Requirements

Facility Monitoring Table

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Daily, when land applying	Flow meter	Flow of wastewater into land application system	Volume (million gallons and acre-inches) to each hydraulic management unit (HMU), record monthly and report annually
Every other week, when land applying	Effluent to land application	Wastewater quality into land application system – composite sample (see Compliance Activity CA-016-02, Sampling and Analysis Protocol (SAP)	Chemical Oxygen Demand (COD), Total Kjeldahl Nitrogen (TKN), Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorous, Total Dissolved Solids, Volatile Dissolved Solids, pH
Twice every year, when land applying	Effluent to land application	Wastewater quality into land application system – 24-hr. Composite	Total Dissolved Inorganic Solids (TDIS) – See Definition in Section C. Submit analysis of individual ions in addition to TDIS.
Monthly	Each HMU	Calculate IWR for each crop type	Volume (million gallons and acre-inches) to each HMU, calculate monthly and report annually
Daily, when irrigating	Flow meter and/or best professional estimates for furrow irrigation system	Supplemental Irrigation Water	Volume (million gallons and acre-inches) to each HMU, record monthly and report annually.
Twice every year, when irrigating	Supplemental Irrigation at diversions	Grab sample	Total Kjeldahl Nitrogen (TKN), Nitrate + Nitrite Nitrogen, Total Phosphorous, Total Dissolved Solids, Volatile Dissolved Solids
Quarterly (Feb, May, Aug, and Nov)	Ground Water monitoring wells, listed in Appendix 1	See Note 6	Nitrate-Nitrogen, Total Phosphorous, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), total iron, total manganese, chloride, dissolved iron[1], dissolved manganese[1], pH, conductivity, and temperature, static water level

G. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
			Note 1: Analytical results are required for dissolved iron and/or manganese only if the results for total iron and/or manganese exceed the standards in IDAPA 58.01.11.200.01.b.
Quarterly (Feb, May, Aug, and Nov) First and last year of the permit	Ground Water monitoring wells, listed in Appendix 1	See Note 6	Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Alkalinity (carbonate and bicarbonate) and Sulfate (S)
Twice per year (April and Nov)	Each soil monitoring unit	See note 5	Electrical Conductivity, TKN, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorus, pH, % organic matter, potassium, sodium, CEC, DTPA Fe and Mn. Notes: Add SAR if sodium loading rates are high (%Na between 20 and 30% is considered high) Phosphorous – use Olsen method for soils with pH 6.5 or higher. Use Bray method if soil pH is <6.5 Samples for P analysis should be collected from the 24 to 36" depth.
Annually	Each HMU	Crop type and yield	Pounds/acre and total pounds per HMU (specify moisture basis)
	Each HMU	Plant tissue analysis: Composite sample of harvested portion or use tables for standard plant uptake values	Nitrate-nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, ash (dry basis)
	Each HMU	Calculate crop nitrogen, phosphorous, and ash removal	Pounds/acre and total pounds per HMU (dry basis)
	Each HMU	Calculate wastewater loading rate	Million gallons & Inches/ac
	Each HMU	Calculate Supplemental Irrigation water	Million gallons & Inches/ac

G. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Annually	Each HMU	Calculate Irrigation Water Requirement (IWR)	Million gallons
	Each HMU	Calculate seasonal average COD loading rate for pea and corn seasons (see Section F. Permit Limits and Conditions)	Pounds/acre-day, for pea season (91 days) Pounds/acre-day, for corn season (123 days)
	Each HMU	Calculate wastewater nitrogen loading rate	Pounds/acre-year
	Each HMU	Calculate wastewater phosphorous loading rate	Pounds/acre-year
	Each HMU	Calculate Inorganic TDS loading (NVDS) from wastewater land application	Pounds/acre-year
	Each HMU	Calculate TDIS loading from wastewater (use average TDIS concentration)	Pounds/acre-year
	Each HMU	Calculate Inorganic TDS loading (NVDS) from supplemental irrigation application.	Pounds/acre-year
	Each HMU	Report nitrogen and phosphorous fertilizer application rates	Type and Pounds/acre-year
	Each Soil Monitoring Unit	Prepare a mass balance for nitrogen for each soil unit	NA
	All flow measurement locations.	Flow measurement calibration of all flowmeters used to determine the volume sent to land application.	Document the flow measurement calibration of all flow meters and pumps used directly or indirectly measure all wastewater, tail water, flushing water, and supplemental irrigation water flows applied to each HMU.

G. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Annually	All supplemental irrigation pumps directly connected to the wastewater distribution system.	Backflow and air gaps testing	Document the testing of all backflow prevention devices for all supplemental irrigation pumps directly connected to the wastewater distribution system(s). Report the testing date(s) and results of the test (pass or fail). If any test failed, report the date of repair or replacement of backflow prevention device, and if the repaired/replaced device is operating correctly. Air gaps need to be tested only when physical changes are made to the structures.
Baler Water monitoring requirements Note: Additional requirements for monitoring and reporting may be include at the time a site is approved for baler water application			
Once per each approved site, when land applying baler water	Baler water to each approved site	Determine the volume of baler water, for each site	Volume (million gallons) or weight (pounds)
	Baler water to each approved site, prior to application	Baler water quality	Chemical Oxygen Demand (COD), Total Kjeldahl Nitrogen (TKN), Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorous
Twice per each approved site, when land applying baler water (before land application and one year after)	Soil sample for each approved site where baler water is land applied	See note 5	Electrical Conductivity, TKN, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorus, pH, % organic matter, potassium, sodium, CEC, DTPA Fe and Mn. Notes: Add SAR if sodium loading rates are high (%Na between 20 and 30% is considered high) Phosphorous – use Olsen method for soils with pH 6.5 or higher. Use Bray method if soil pH is <6.5 Samples for P analysis should be collected from the 24 to 36" depth.

H. Standard Reporting Requirements

1.) The Permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than February 28 of each year, which shall cover the previous reporting year. The Annual Report shall include an interpretive discussion of monitoring data (ground water, soils, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.

2.) The annual report shall contain the results of the required monitoring as described in *Section G. Monitoring Requirements*. If the permittee monitors any parameter more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report.

3.) The annual report shall be submitted to the Engineering Manager in the applicable Regional DEQ Office.

Boise Regional Office
1445 N. Orchard
Boise, ID 83706-2239
208-373-550

Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
208-769-1422

Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402
208-528-2650

Lewiston Regional Office
1118 "F" Street
Lewiston, ID 83501
208-799-4370

Pocatello Regional Office
444 Hospital Way, #300
Pocatello, ID 83201
208-236-6160

Twin Falls Regional Office
1363 Fillmore Street
Twin Falls, ID 83301
208-736-2190

A copy of the annual report shall also be mailed to:

Richard Huddleston, P.E.
Wastewater Program Manager
1410 N. Hilton
Boise, ID 83706
208-373-0561

4.) Notice of completion of any work described in *Section E. Compliance Schedule for Required Activities* shall be submitted to the Department within 30 days of activity completion. The status of all other work described in Section E shall be submitted with the Annual Report.

5.) All laboratory reports containing the sample results for monitoring required by *Section G. Monitoring Requirements* of this permit shall be submitted with the Annual Report.

I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Wastewater-Land Application Permit Regulations, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.

2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the U.S. Environmental Protection Agency.

3. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:

    a. Apply wastewater as evenly as practicable to the treatment area;
    b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
    c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.

4. The permittee shall:

    a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
    b. Not hydraulically overload any particular areas of the wastewater reuse treatment site.

5. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.

6. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Wastewater Reuse Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.

7. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:

    a. Enter the permitted facility,
    b. Inspect any records that must be kept under the conditions of the permit.
    c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
    d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.

8. The permittee shall report to the Director under the circumstances and in the manner specified in this section:

    a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
    b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
    c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

DEQ Regional Office: see Permit Certificate Page
Emergency 24 Hour Number: 1-800-632-8000

d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:

   i. A description of the non-compliance and its cause;
   ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
   iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.

e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.

9. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.

10. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J. Standard Permit Conditions: Modifications, Violation, and Revocation

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.

2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.

3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in Section I. *Standard Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.

4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.

5. Any person violating any provision of the Wastewater Reuse Permit Regulations, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.

6. The Director may revoke a permit if the permittee violates any permit condition or the Wastewater Reuse Permit Regulations.

7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.

8. If, pursuant to Idaho Code 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23.

9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.

10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted reuse facility from service, including any treatment, storage, or other facilities or equipment associated with the reuse site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

Appendix 1
Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Acres
MU-001601	Hatfield	36
MU-001602S	Love/HDS South	73
MU-001602N	Love/HDS North	83
MU-001603	Pence/BCD	73
MU-001605	Hendix/Kaster	203
MU-001606N	Eriksen/Gulik North	152
MU-001606S	Martins/Lemoyne South	72
MU-001607	Miller	72
MU-001608	Lemoyne/McDonald	100
MU-001609	Paulson	75
MU-001610	Gomez	118

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-001601	Surge Pond

Appendix 1
Environmental Monitoring Serial Numbers
SOIL MONITORING UNITS

Serial Number	Description	Associated MU
SU-001601	Hatfield	MU-001601
SU-001602S	Love/HDS South	MU-001602S
SU-001602N	Love/HDS North	MU-001602N
SU-001603	Pence/BCD	MU-001603
SU-001605	Hendix/Kaster	MU-001605
SU-001606N	Eriksen/Gulik North	MU-001606N
SU-001606S	Martins/Lemoyne South	MU-001606S
SU-001607	Miller	MU-001607
SU-001608	Lemoyne/McDonald	MU-001608
SU-001609	Paulson	MU-001609
SU-001610	Gomez	MU-001610

Appendix 1
Environmental Monitoring Serial Numbers

GROUND WATER MONITORING

Serial Number	Description	Location
GW-001609	MW-1 (Hatfield)	Downgradient
GW-001608	MW-2 (Busman)	Crossgradient
GW-001610	MW-3 (New Buhl Implement)	Upgradient
GW-001611	MW-4 (Country store)	Upgradient
GW-001612	MW-5 (Pence)	Downgradient
GW-001613	MW-6 (Miller)	Downgradient
GW-001614	MW-7 (McDonald)	Downgradient

LAGOONS

Serial Number	Description
LG-001601	Surge pond

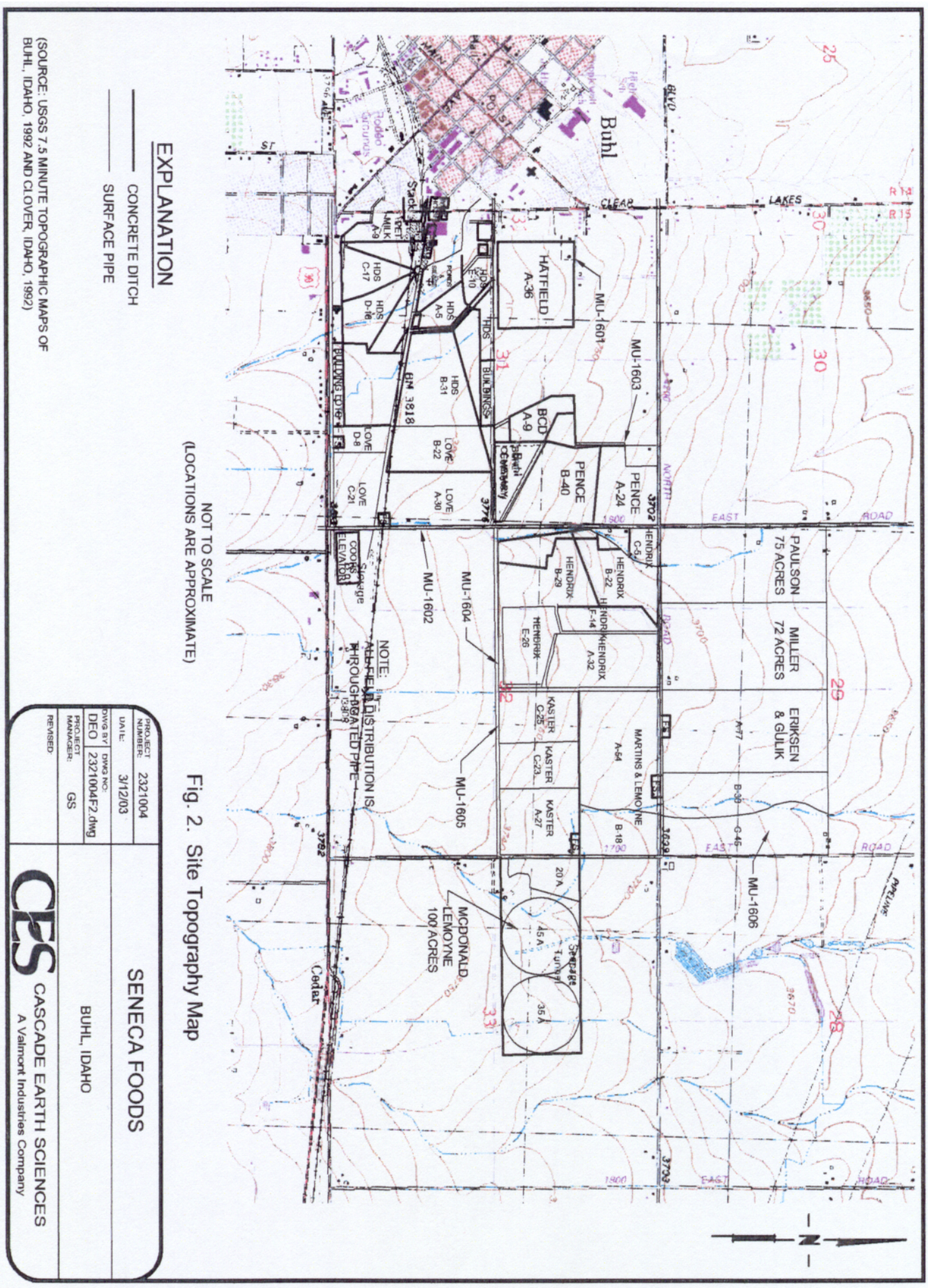


Fig. 2. Site Topography Map

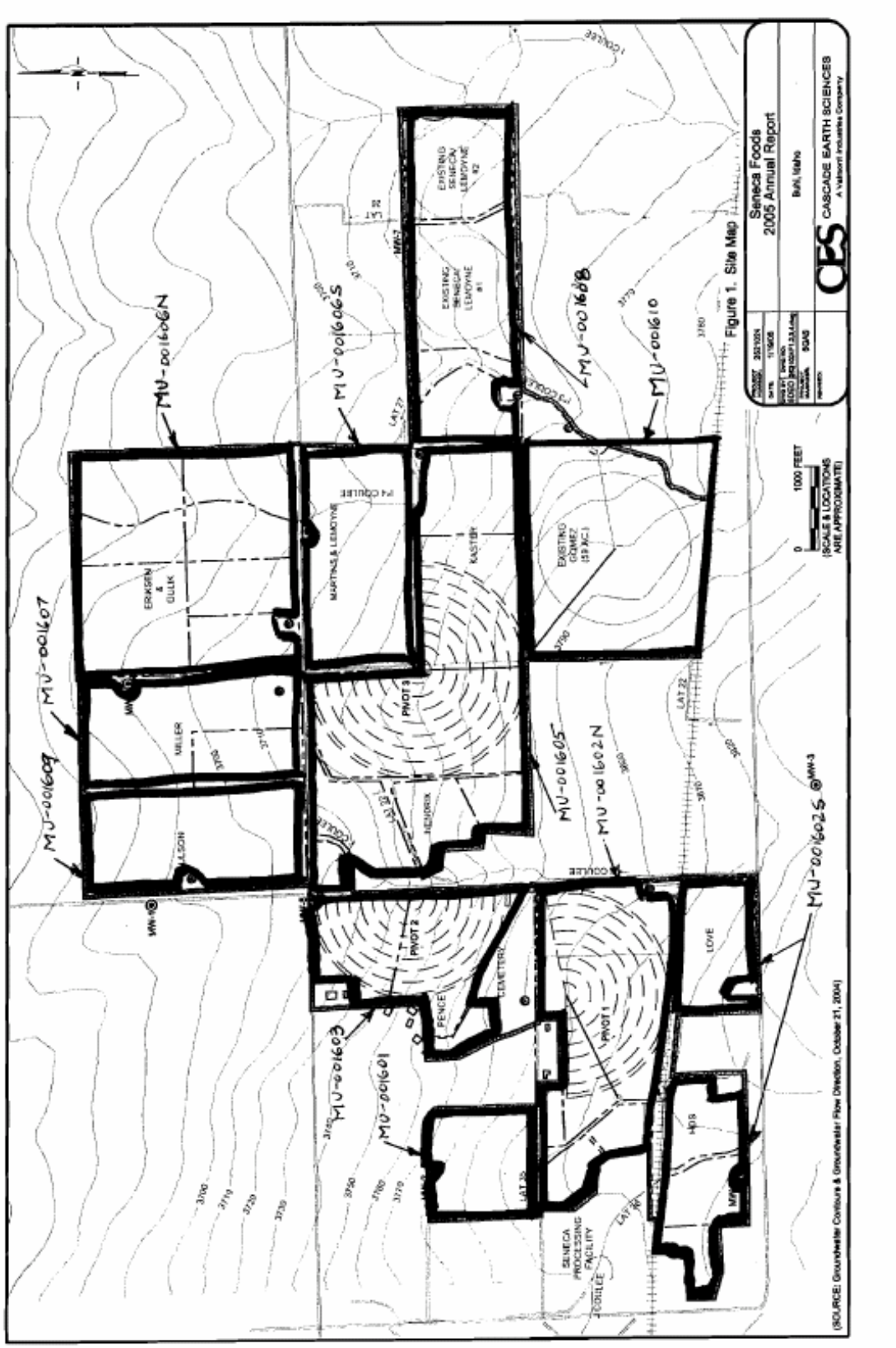
PROJECT NUMBER:	2321004
DATE:	3/12/03
DWG BY:	DEO
DWG NO:	2321004F2.dwg
PROJECT MANAGER:	GS
REVISED:	

SENECA FOODS

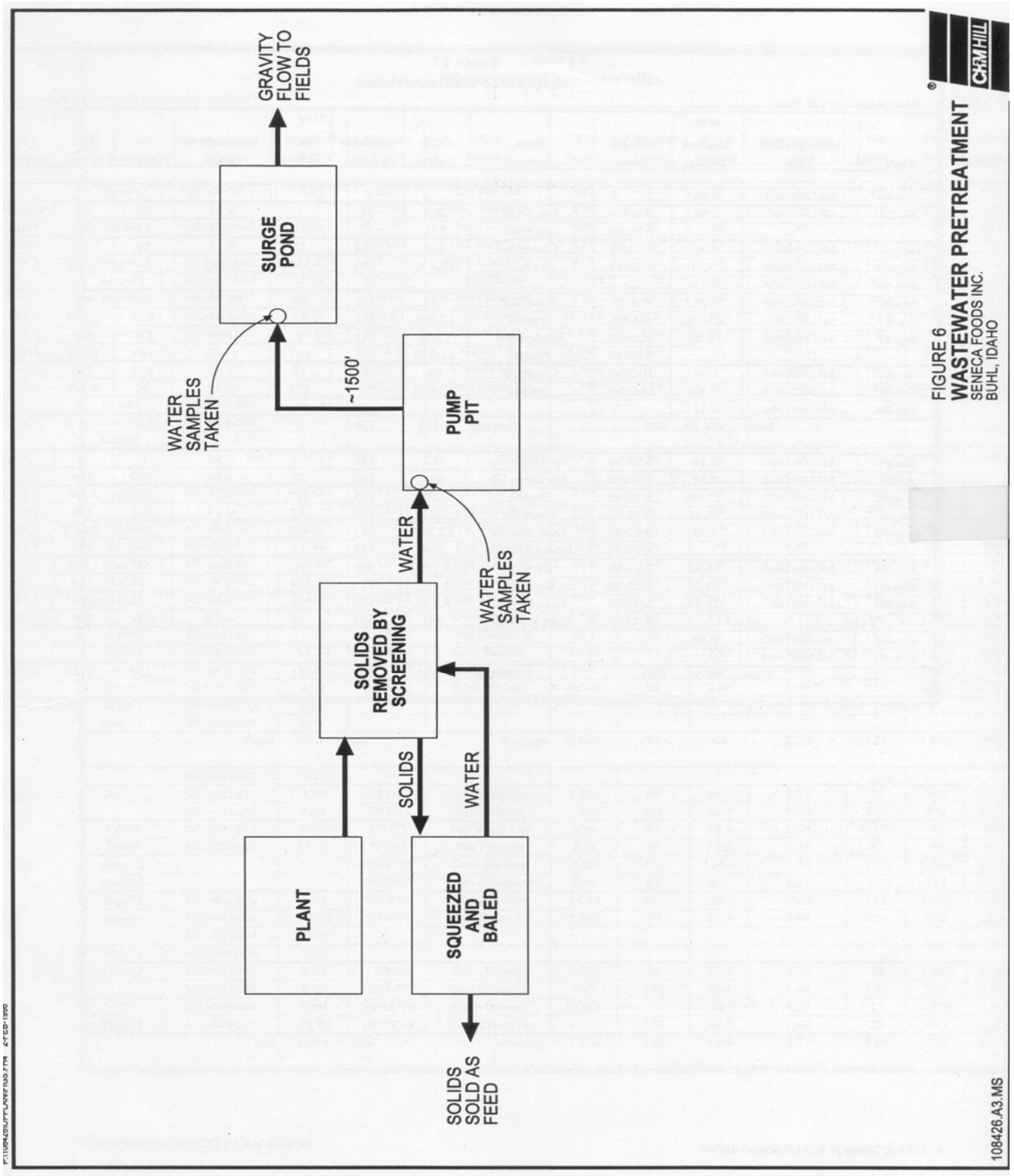
BUHL, IDAHO

CES CASCADE EARTH SCIENCES
A Valmont Industries Company

Appendix 2


Seneca Foods
2005 Annual Report
Burt, Idaho
CASCADE EARTH SCIENCES
Figure 1. Site Map
MU-001606N
MU-001606S
MU-001608
MU-001610
MU-001607
MU-001609
MU-001605
MU-001602N
MU-001603
MU-001601
MU-001625
MW-3
PIVOT 1
PIVOT 2
PIVOT 3
EXISTING SENECA LEMOYNE #2
EXISTING SENECA LEMOYNE #1
EXISTING GEMEZ (19 AC.)
ERIKSEN & GULIK
MARTINS & LEMOYNE
KASTER
MILLER
LEON
HENDRIX
CEMETERY
FENCE
LOVE
SENECA PROCESSING FACILITY
COULEE
1000 FEET
(SOURCE: Groundwater Contours & Groundwater Flow Direction, October 21, 2004)

Appendix 2


GRAVITY FLOW TO FIELDS
SURGE POND
WATER SAMPLES TAKEN
~1500'
PUMP PIT
WATER
WATER SAMPLES TAKEN
SOLIDS REMOVED BY SCREENING
SOLIDS
WATER
PLANT
SQUEEZED AND BALED
SOLIDS SOLD AS FEED
FIGURE 6
WASTEWATER PRETREATMENT
SENECA FOODS INC.
BUHL, IDAHO
CH2MHILL
108426.A3.MS

Appendix 3

Land Application of baler water

A. Information required to be submitted

1. Storage and Transportation – The permittee must explain the handling of the baler water from generation to the land application site. Include description of any chemicals used to aid in generating the baler water, if applicable. Describe the method of pumping the baler water to the hauling vehicle and describe the hauling vehicle. Explain how the baler water will be land applied onto the field. State how the total volume hauled will be measured and what kind of records will be kept. Explain where the baler water samples will be collected. Discuss what contingency plans have been developed in case of inclement weather.

2. Land Application Site – Each site must be approved by the Department prior to use. The permittee must provide at minimum the following information: plat map showing location of site, location of nearby wells, residences, roadways, waterways, surface water, legal description of site (section, township, range), acreage size, owner and/or farmer name, soil type, soil test results, slope, depth to groundwater and bedrock, existing/proposed cover crop, crop management and harvesting plans, state the proposed loading rates (i.e. hydraulic, nutrients, organic, etc), the period of loading and resting, describe how baler water will be incorporated into soil. Attach a copy of the land use agreement.

B. Site Approval, Limits and Conditions

The permittee will provide all requested information at minimum 60 days prior to the time the site is needed for land application. The Department will review the information and make the determination if the site is acceptable. In case the site is approved, limits and conditions will be set for each site and be similar to the ones that apply to the sites permitted for process waste water irrigation.

C. Operational Requirements

The operational requirements include even distribution of the baler water. Spillage and leakage from the transportation vehicle must be prevented. Separation distance from wells, residences, public access roads and streams will be required. Immediate incorporation in soil will be required to prevent nuisance odors from forming.

D. Monitoring and Reporting Requirements

1. Daily record of the volume of baler water land applied, the acres and land area onto which it was applied, total loadings of all required parameters in pounds/acre, and the application rate in gallons or tons/acre.
2. The baler water shall be analyzed for chemical oxygen demand (COD), total Kjeldahl nitrogen (TKN), ammonia-nitrogen, nitrite and nitrate nitrogen, total phosphorus. The Department may add other parameters if it appears to be necessary.
3. Soil samples shall be collected prior to application and after application of baler water and analyzed for electrical conductivity, total Kjeldahl nitrogen (TKN),

ammonia-nitrogen, nitrite and nitrate nitrogen, plant available phosphorus, pH, % organic matter, potassium, sodium, CEC, DTPA Fe and Mn.

4. All the parameters required to be reported annually for the process wastewater apply to baler water land application, and shall be reported in the Annual Performance Report. It is the responsibility of the permittee to report other raw materials, additives, or processes which may result in significant concentrations of other parameters and to then analyze for those parameters.